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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/458,123	12/08/1999	BLAINE R. SPADY	M-7677-US	8470

34036 7590 02/12/2007
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EXAMINER

STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/458,123	SPADY ET AL.	
	Examiner	Art Unit	
	Gordon J. Stock	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 15-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 15-24 is/are allowed.
- 6) ☒ Claim(s) 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/4/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on January 18, 2007 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maeda et al.** (6,263,099)—previously cited in view of **Sandland et al.** (4,556,317)—previously cited and **Yokota et al.** (4,966,520).

As for **claim 25**, Maeda in an inspection apparatus discloses the following: providing lateral and rotational movement of the wafer in respect with the optical system, an x,y,z, and theta stage; imaging at least one area of the wafer for inspection thereby generating an image signal of at least one area on the wafer using the optical system; wherein, the lateral movement and rotational movement permits the optical system to inspect a plurality of separate areas on the

Art Unit: 2877

wafer (Figs. 1, 24, 25, 30a, 30b, 31a, 31b; col. 6, lines 50-67; col. 7, lines 1-20; col. 9, lines 55-67; col. 10, lines 1-35; col. 31, lines 10-65); wherein, the rotational movement changes a relative angular orientation of the wafer with respect to the optical system (Fig. 1: relative angle, θ , from optical axis of optical system: 1 and z-theta stage with respect to optical axis comprising: 3, 6, 7, and 9). Maeda is silent concerning processing the image signal of the area on the wafer based on the relative angular orientation of the wafer with respect to the optical system to display a rotated image that preserves a desired orientation of the wafer. However, Sandland in a wafer inspection system teaches producing rotating images to correct for inspection changes through image correlation (col. 16, lines 10-40). And Yokota in a method of positioning objects for inspection teaches processing image signal of an area of the wafer based on a relative angular orientation of the wafer with respect to the optical system to display a rotated image that preserves a desired orientation of the wafer (Figs. 2 and 3: 50 relative to 11 in regards to 6 and 7: angular orientation of wafer relative to optical system; Figs. 5 and 6; Fig. 10a: S9-S10; Fig. 11: S7' to S14'; col. 9, lines 58-67 and col. 10, lines 1-10). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to process the image signal of the area on the wafer based on the relative angular orientation of the wafer with respect to the optical system to display a rotated image that preserves a desired orientation of the wafer in order to correct for inspection changes as the wafer is imaged at different locations on its surface and to provide a reference position on the wafer for inspection.

Allowable Subject Matter

4. **Claims 1-9, 15-24** are allowed.

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for inspecting a wafer the particular step of aligning an optical system wherein the optical system is rotationally moved, in combination with the rest of the limitations of **claims 1-9**.

As to **claim 15**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for inspecting a wafer the particular step of moving an optical system rotationally, in combination with the rest of the limitations of **claims 15-20**.

As to **claim 21**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for inspecting a wafer the particular steps of providing lateral movement and providing relative rotational movement, in combination with the rest of the limitations of **claims 21-24**.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent 6,477,266 to Asar

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Art Unit: 2877

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gs

January 30, 2007



Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877